

FIG. 1

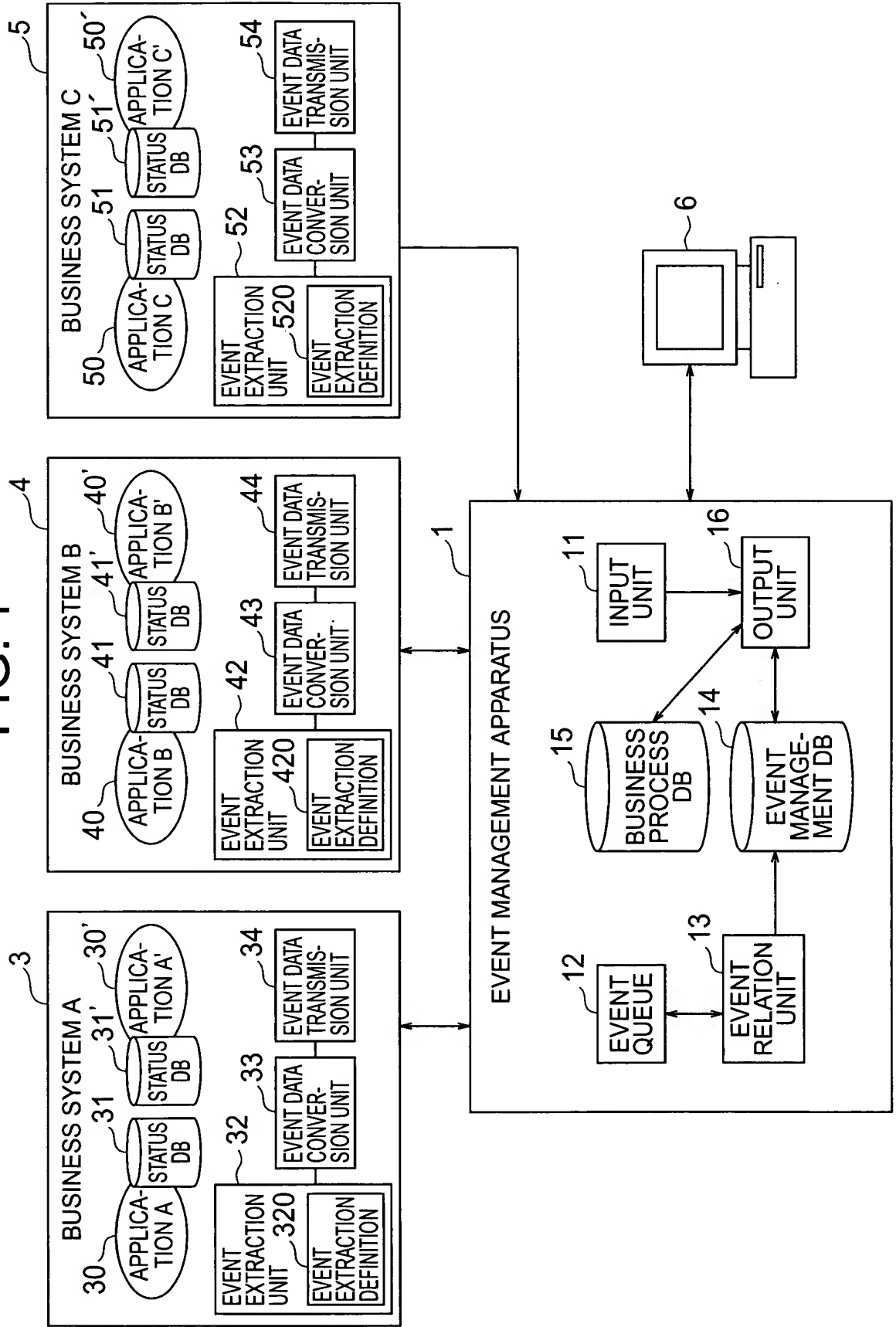


FIG. 2

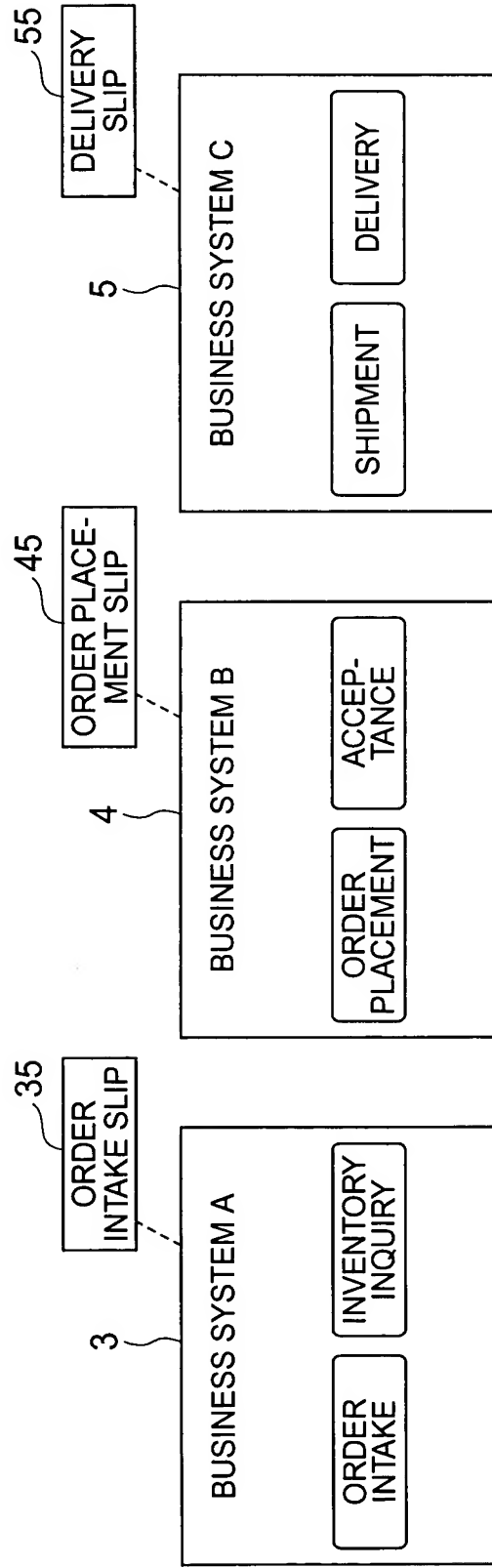


FIG. 3

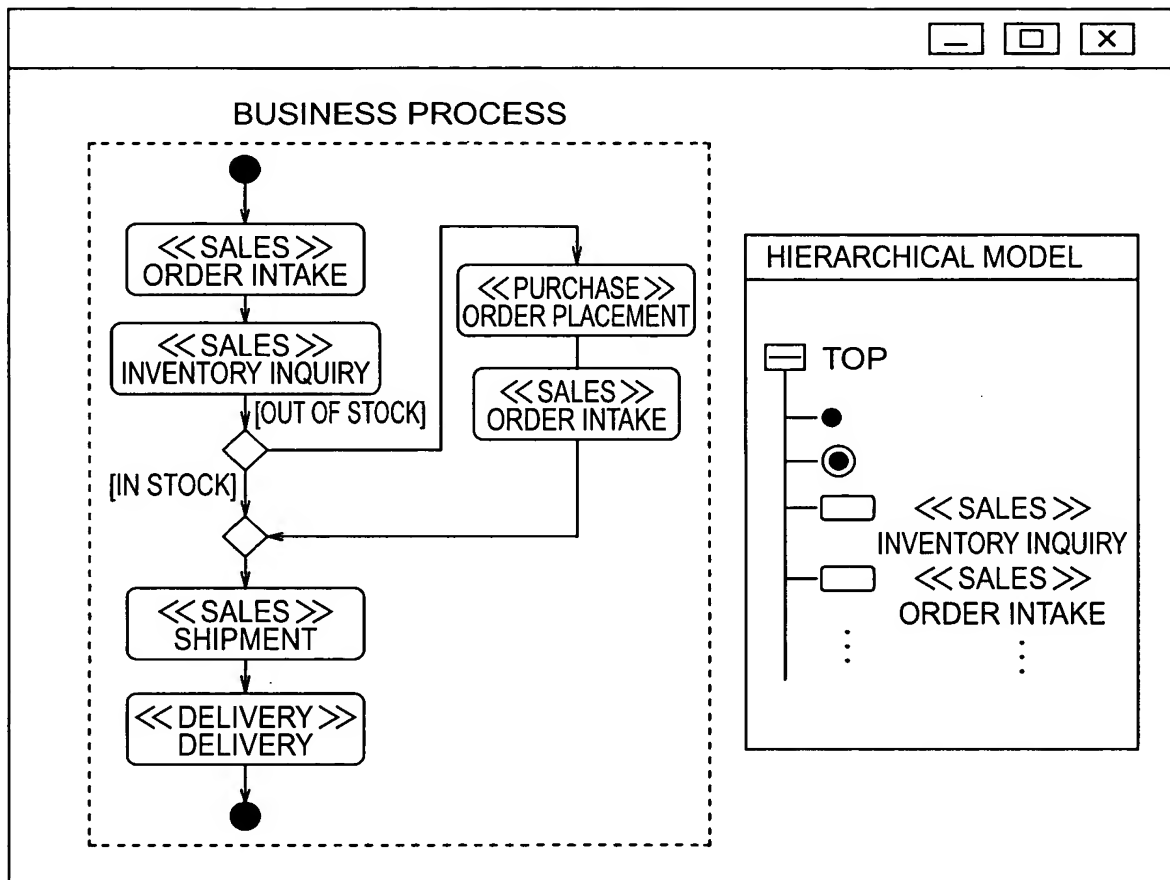


FIG. 4

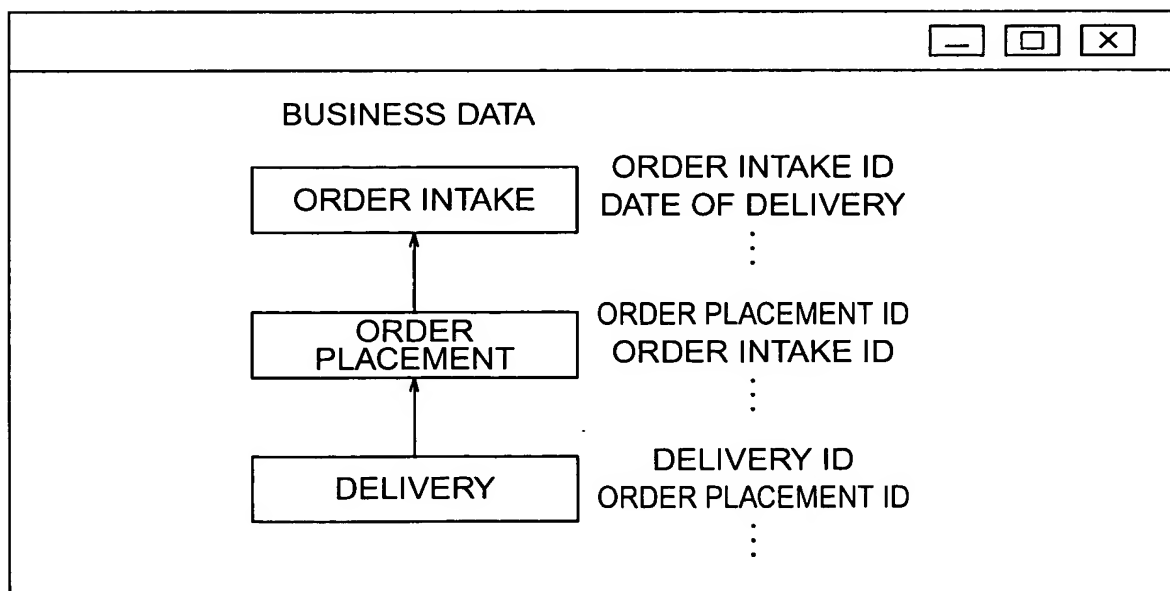


FIG. 5A

BUSINESS PROCESS

ID	ACTIVITY
p1	ORDER INTAKE
p2	INVENTORY INQUIRY
p3	ORDER PLACEMENT
p4	ACCEPTANCE
p5	SHIPMENT
p6	DELIVERY

FIG. 5B

BUSINESS DATA

ID	BUSINESS DATA NAME
d1	ORDER INTAKE
d2	ORDER PLACEMENT
d3	DELIVERY

FIG. 6A

DATA ITEMS

ID	NAME	TYPE	BUSINESS DATA
v1	ORDER INTAKE ID	KEY	d1
v2	DATE OF DELIVERY	DATE	d1
v3	AMOUNT OF ORDERS RECEIVED	NUMERICAL VALUE	d1
v4	ORDER PLACEMENT ID	KEY	d2
v5	ORDER INTAKE ID	KEY	d2
v6	VENDOR	CHARACTER STRING	d2
v7	DELIVERY ID	KEY	d3
v8	ORDER PLACEMENT ID	KEY	d3
v9	DELIVERY DATE	DATE	d3

FIG. 6B

TRANSITION

ID	INPUT/ OUTPUT	EFFECT	ACTIVITY	BUSINESS DATA
t1	OUTPUT	C	p1	d1
t2	INPUT	R	p2	d1
t3	OUTPUT	C	p3	d2
t4	INPUT	U	p4	d2
t5	OUTPUT	C	p5	d3
t6	INPUT	U	p6	d3

FIG. 7A




FIG. 7A is a screenshot of a software window titled "PROCESS SELECTION" on the left and "EVENT SETUP" on the right, separated by a horizontal line. The window has a standard title bar with minimize, maximize, and close buttons. Below the title bar, the text "PROCESS SELECTION" is on the left and "EVENT SETUP" is on the right. In the center, there is a label "PROCESS:" followed by a dropdown menu showing "PRODUCTION PROCESS" with a downward arrow. At the bottom, there are three buttons: "NEXT", "MENU", and "HELP".

PROCESS SELECTION — — EVENT SETUP

PROCESS : PRODUCTION PROCESS ▼

NEXT MENU HELP

FIG. 7B

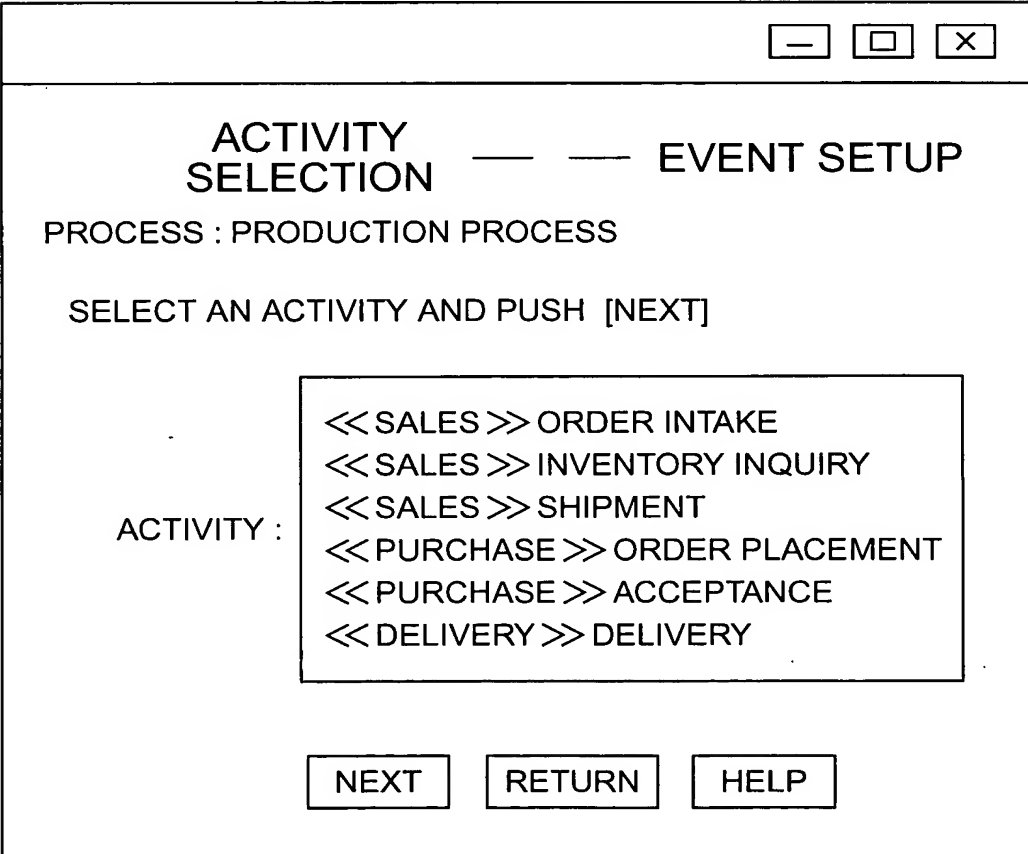


FIG. 7B is a screenshot of a software window titled "ACTIVITY SELECTION" on the left and "EVENT SETUP" on the right, separated by a horizontal line. The window has a standard title bar with minimize, maximize, and close buttons. Below the title bar, the text "ACTIVITY SELECTION" is on the left and "EVENT SETUP" is on the right. Below this, the text "PROCESS : PRODUCTION PROCESS" is displayed. Further down, the instruction "SELECT AN ACTIVITY AND PUSH [NEXT]" is shown. In the center, there is a list of activities enclosed in a box, each preceded by a double less-than sign: "<< SALES>> ORDER INTAKE", "<< SALES>> INVENTORY INQUIRY", "<< SALES>> SHIPMENT", "<< PURCHASE>> ORDER PLACEMENT", "<< PURCHASE>> ACCEPTANCE", and "<< DELIVERY>> DELIVERY". At the bottom, there are three buttons: "NEXT", "RETURN", and "HELP".

ACTIVITY SELECTION — — EVENT SETUP

PROCESS : PRODUCTION PROCESS

SELECT AN ACTIVITY AND PUSH [NEXT]

ACTIVITY :

- << SALES>> ORDER INTAKE
- << SALES>> INVENTORY INQUIRY
- << SALES>> SHIPMENT
- << PURCHASE>> ORDER PLACEMENT
- << PURCHASE>> ACCEPTANCE
- << DELIVERY>> DELIVERY

NEXT RETURN HELP

FIG. 8A

SYSTEM SELECTION

— —

EVENT SETUP

PROCESS : PRODUCTION PROCESS

ACTIVITY : << SALES >> ORDER INTAKE

SELECT ACTIVITY [<< SALES >> ORDER INTAKE]

BUSINESS SYSTEM :

BUSINESS SYSTEM A ▼

NEXT

RETURN

HELP

FIG. 8B

SETUP CORRESPONDING TO DATA

— —

EVENT SETUP

PROCESS : PRODUCTION PROCESS

ACTIVITY : << SALES >> ORDER INTAKE

BUSINESS SYSTEM : BUSINESS SYSTEM A

SET THE DATA ITEM IN A SYSTEM CORRESPONDING TO THE DATA ITEM OF AN ACTIVITY

ACTIVITY DATA ITEM		INTRA-SYSTEM DATA ITEM	
ORDER INTAKE SLIP	⇒	aaaa	▼
REQUESTED DELIVERY DATE	⇒	bbbb	▼
AMOUNT OF ORDERS RECEIVED	⇒	cccc	▼
⋮	⋮	⋮	

SETUP

RETURN

HELP

FIG. 9

EVENT EXTRACTION DEFINITION

320

```
<?xml version="1.0" encoding="Shift_JIS"?>
<extractDefinition>
  <UMLmodel name="sample1">
    <system name="myR3" type="R/3">
      <location name="userexit_jutyuu_enter" activityName="ORDER INTAKE" modelOutput="yes"> <!--ACTIVITY START-->
        <startTime /> <!-- tempTable,IDateTime USE THE DATETIME FIELD OF THE TEMPTABLE -->
        <primaryKey name="ORDER INTAKE" place="AA-BB" />
      </location>
      <location name="userexit_jutyuu_exit" activityName="ORDER INTAKE" modelOutput="no"> <!--ACTIVITY END-->
        <finishTime />
        <primaryKey name="ORDER INTAKE" place="AA-BB" />
        <property name="AMOUNT OF ORDERS RECEIVED" place="AB-CD" />
        <property name="REQUESTED DELIVERY DATE" place="XX-YY" />
      </location>
      <temporaryTable> <!-- for JMS publisher -->
        <name>tempTable</name> <!-- default: "tempTable" -->
        <jdbc user="ana" password="ana" url="jdbc:oracle:thin:@localhost:1521:HESTER"
          driver="oracle.jdbc.driver.OracleDriver" />
      </temporaryTable>
    </system>
  </extractDefinition>
```


FIG. 10

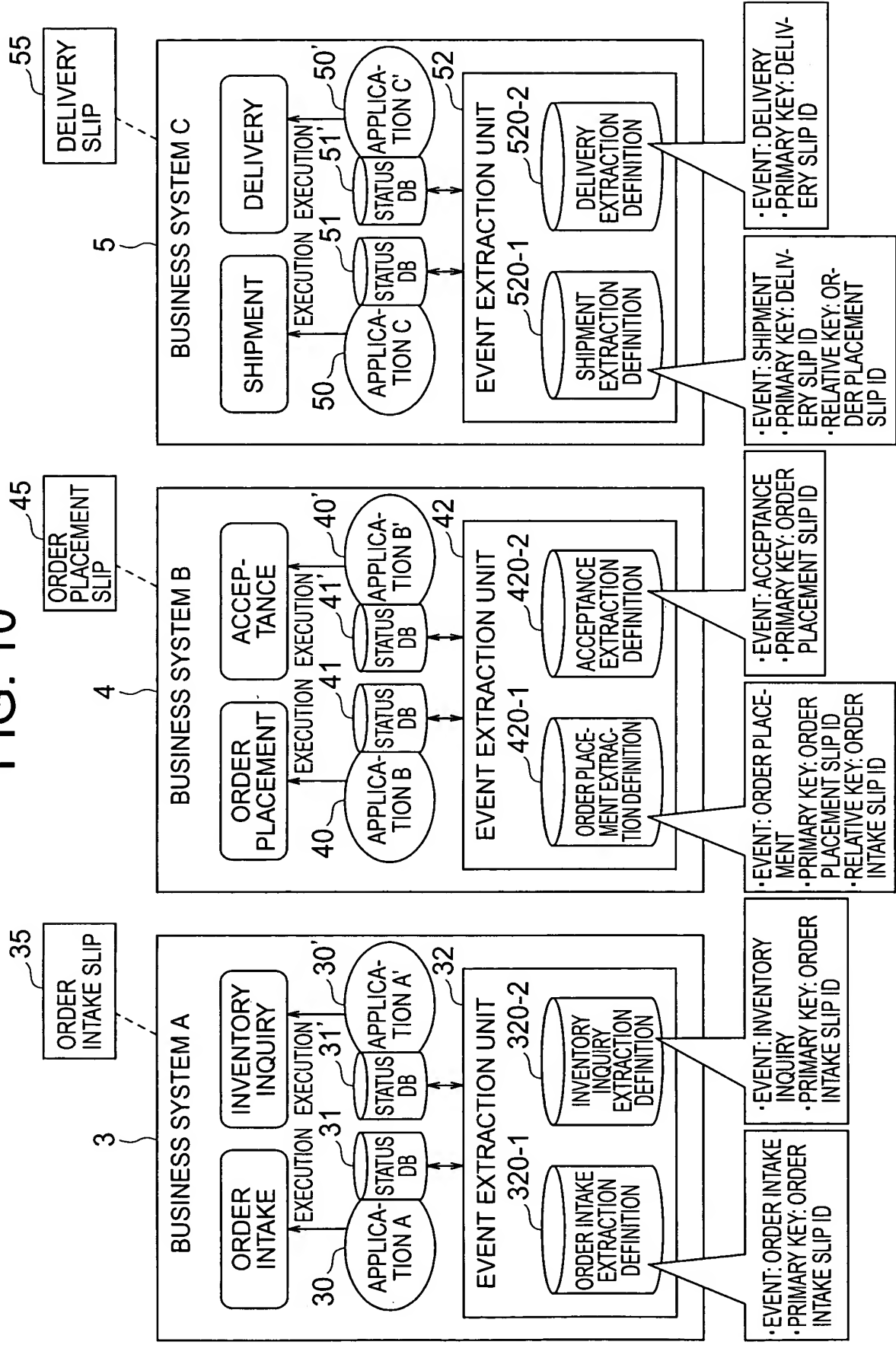


FIG. 11A

ORDER INTAKE EVENT DATA

```
<bpm:event xmlns:bpm="urn:fj-bpm-event">
  <bpm:modelName>PRODUCT PROCESS</bpm:modelName>
  <bpm:eventData>
    <bpm:eventName>ORDER INTAKE</bpm:eventName>
    <bpm:startTime>20030605T103500</bpm:startTime>
  </bpm:eventData>
  <bpm:primaryKey type="ORDER INTAKE SLIP">o001</bpm:primaryKey>
  <bpm:property name="AMOUNT OF ORDERS RECEIVED">1000</bpm:property>
  <bpm:property name="REQUESTED DELIVERY DATE">2003/6/20</bpm:property>
</bpm:event>
```

FIG. 11B

ORDER PLACEMENT EVENT DATA

```
<bpm:event xmlns:bpm="urn:fj-bpm-event">
  <bpm:modelName>PRODUCT PROCESS</bpm:modelName>
  <bpm:eventData>
    <bpm:eventName>ORDER PLACEMENT</bpm:eventName>
    <bpm:startTime>20030605T103500</bpm:startTime>
  </bpm:eventData>
  <bpm:primaryKey type="ORDER PLACEMENT SLIP">p101</bpm:primaryKey>
  <bpm:relativeKey type="ORDER INTAKE SLIP">o001</bpm:relativeKey>
  <bpm:property name="PRODUCTION NUMBER">12345</bpm:property>
  <bpm:property name="QUANTITY">100</bpm:property>
  <bpm:property name="UNIT PRICE">1000</bpm:property>
</bpm:event>
```

FIG. 12

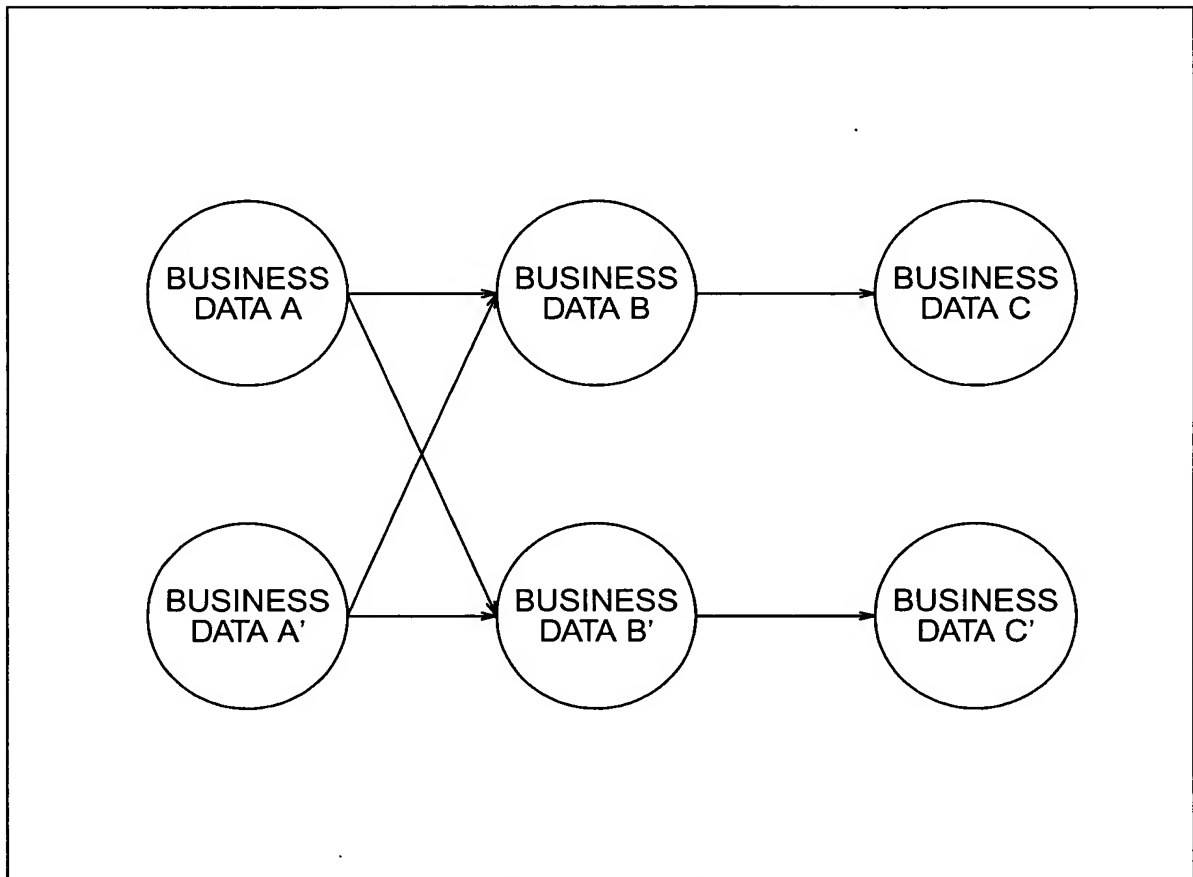


FIG. 13

SVG FILE FOR FLOW EXPRESSION

```
<?xml version="1.0" encoding="UTF-8"?>
<svg xmlns:bpm="urn:fujitsu-bpm" id="bpm" width="1333" height="1000">
<defs>
<marker id="arrowhead" viewBox="0 0 10 10" refX="10" refY="5" markerUnits="strokeWidth" markerWidth="4"
markerHeight="3" orient="auto">
<path d="M 0 0 L 10 5 L 0 10 z" />
</marker>
</defs>
<g>
<circle bpm:id="z+wPK9HWsk6anJ9hz5R7zg" cx="143" cy="51" r="10" style="fill:#6FC498" stroke="#666666" stroke-width="2" />
<text bpm:id="z+wPK9HWsk6anJ9hz5R7zg" bpm:text="1" x="168" y="53"></text>
</g>
<g>
<rect bpm:id="ORDER INTAKE" x="91" y="104" width="100" height="40" style="fill:#CDCDCD" stroke="none" />
<text bpm:id="ORDER INTAKE" x="141" y="132" text-anchor="middle">ORDER INTAKE</text>
<text bpm:id="ORDER INTAKE" bpm:text="0" x="141" y="144" text-anchor="middle"></text>
<text bpm:id="ORDER INTAKE" bpm:text="1" x="193" y="147"></text>
<text bpm:id="ORDER INTAKE" bpm:text="2" x="193" y="126"></text>
<text bpm:id="ORDER INTAKE" bpm:text="3" x="193" y="106"></text>
<rect bpm:id="ORDER INTAKE" x="91" y="104" width="100" height="16" style="fill:#808285" stroke="none" />
<text bpm:id="ORDER INTAKE" x="141" y="116" fill="white" text-anchor="middle">&lt;&lt;SALES&gt;&gt;</text>
</g>
</svg>
```

FORM IN WHICH AN IDENTIFICATION
ID IS EMBEDDED IN VECTOR DATA

FIG. 14

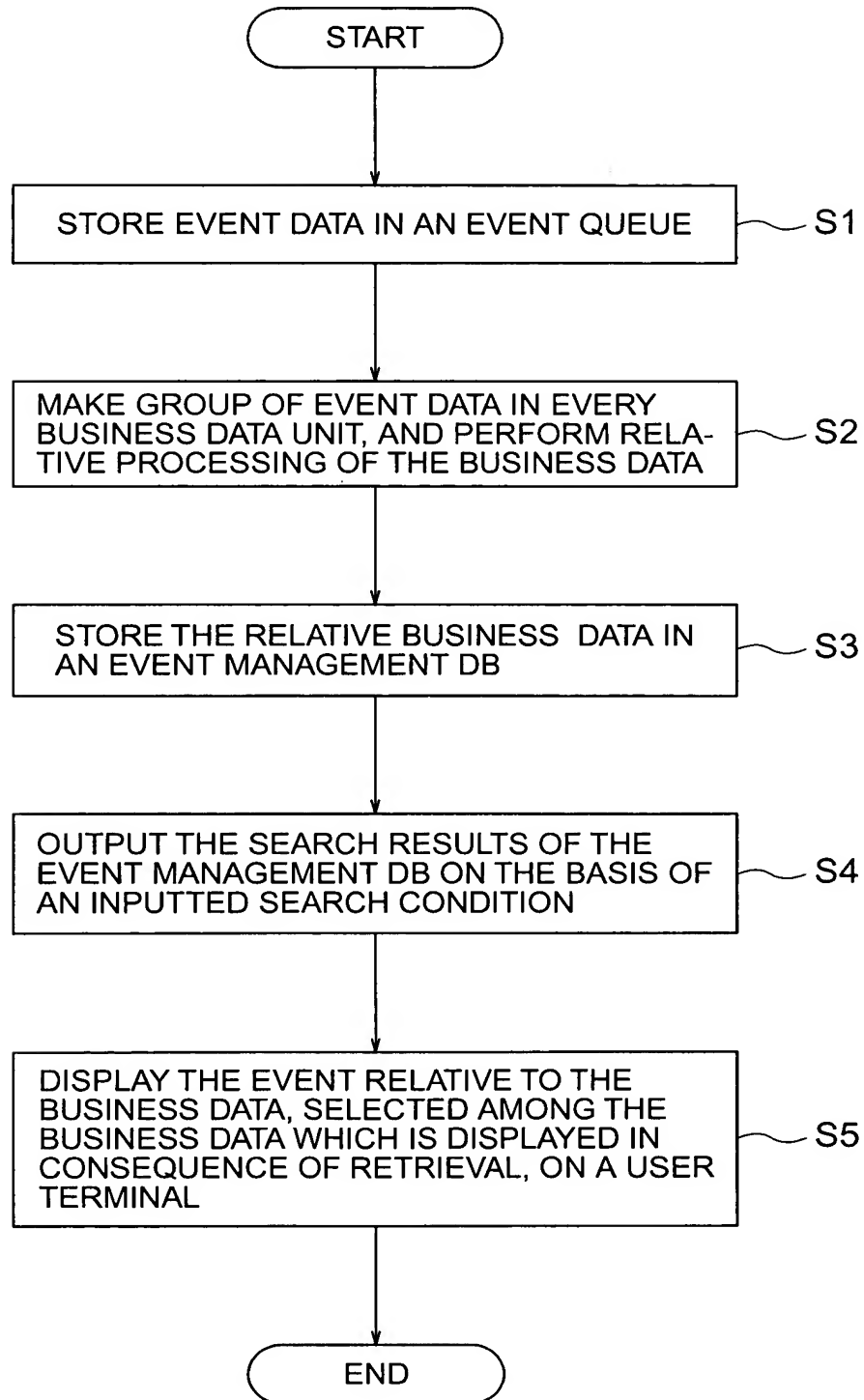


FIG. 15

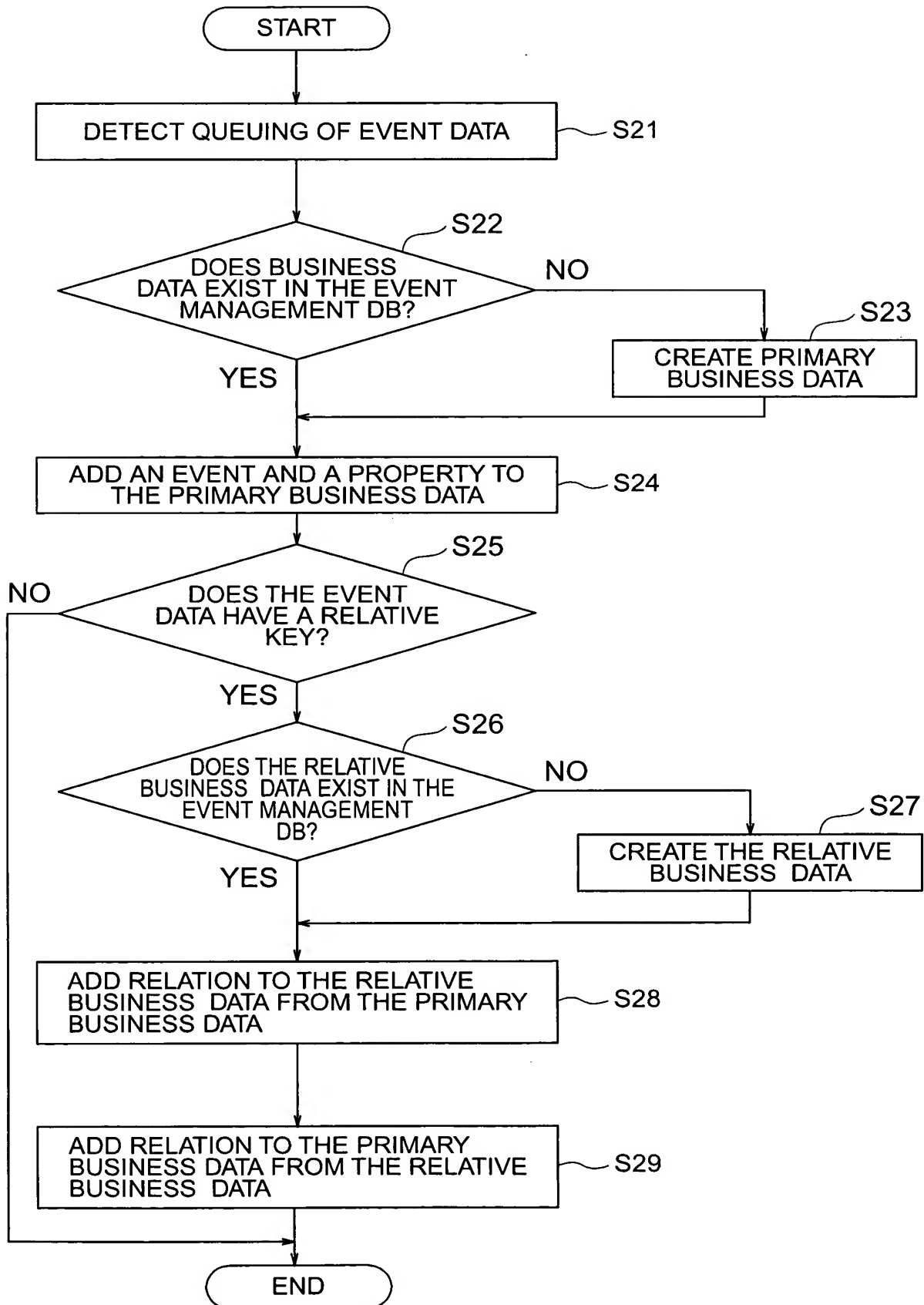


FIG. 16A

EVENT DATA: ORDER PLACEMENT

```
<bpm:event xmlns:bpm="urn:fj-bpm-event">
  <bpm:modelName>PRODUCT PROCESS</bpm:modelName>
  <bpm:eventData>
    <bpm:eventName>ORDER PLACEMENT</bpm:eventName>
    <bpm:startTime>20030827T1000</bpm:startTime>
  </bpm:eventData>
  <bpm:primaryKey type="ORDER PLACEMENT SLIP">p101</bpm:primaryKey>
  <bpm:relativeKey type="ORDER INTAKE SLIP">o001</bpm:relativeKey>
  <bpm:property name="UNIT PRICE">1000</bpm:property>
</bpm:event>
```

FIG. 16B

PRIMARY BUSINESS DATA: ORDER PLACEMENT SLIP

```
<bpm:businessData xmlns:bpm="urn:fj-bpm-event">
  <bpm:modelName>PRODUCT PROCESS</bpm:modelName>
  <bpm:primaryKey type="ORDER PLACEMENT SLIP">p101</bpm:primaryKey>
  <bpm:relativeKey type="ORDER INTAKE SLIP">o001</bpm:relativeKey>
  <bpm:eventData>
    <bpm:eventName>ORDER PLACEMENT</bpm:eventName>
    <bpm:startTime>20030827T1000</bpm:startTime>
  </bpm:eventData>
  <bpm:property name="UNIT PRICE">1000</bpm:property>
</bpm:businessData>
```

FIG. 16C

RELATIVE BUSINESS DATA: ORDER INTAKE SLIP

```
<bpm:businessData xmlns:bpm="urn:fj-bpm-event">
  <bpm:modelName>PRODUCT PROCESS</bpm:modelName>
  <bpm:primaryKey type="ORDER INTAKE SLIP">o001</bpm:primaryKey>
  <bpm:relativeKey type="ORDER PLACEMENT SLIP">p101</bpm:relativeKey>
</bpm:businessData>
```

FIG. 17

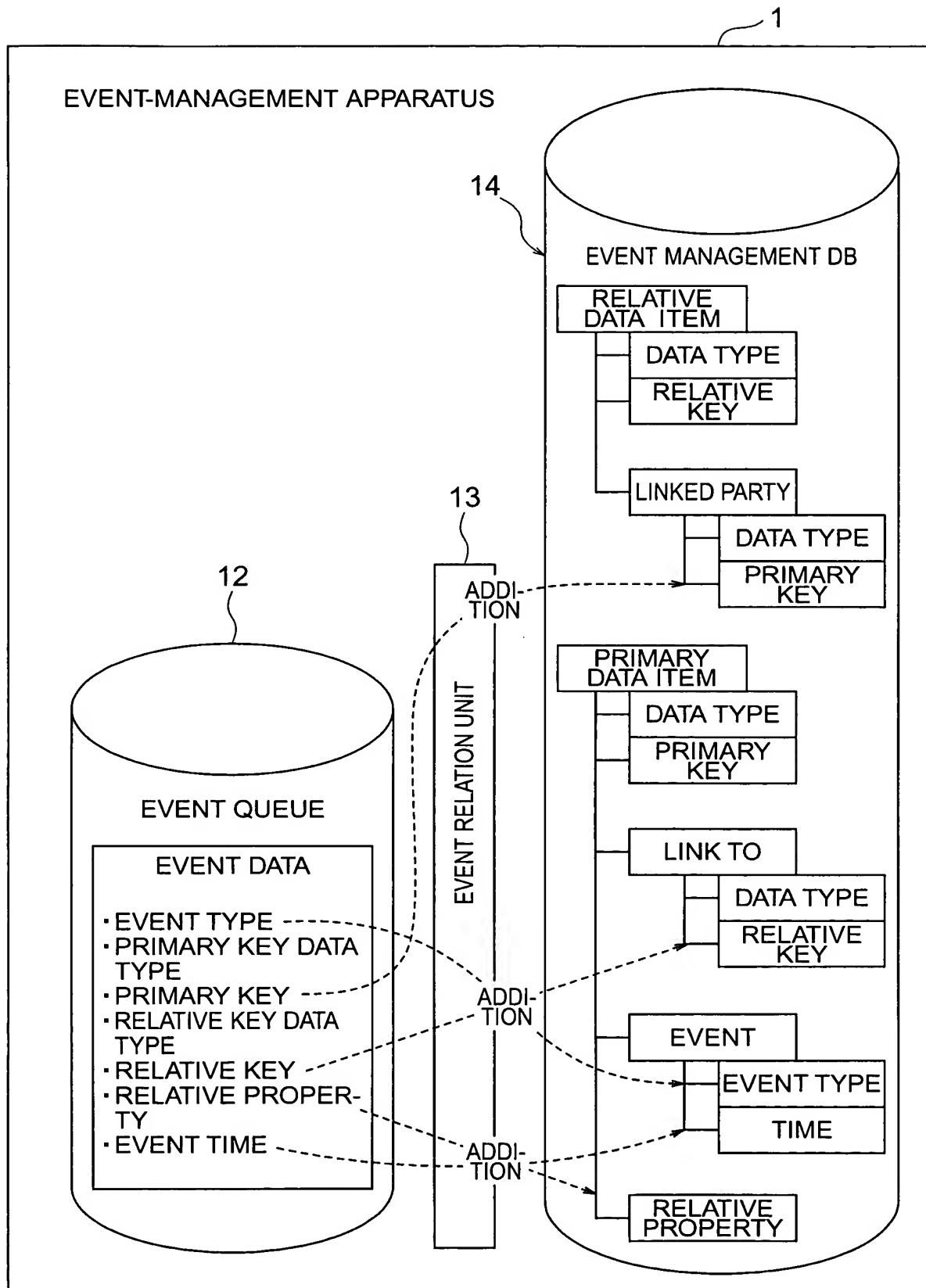


FIG. 18

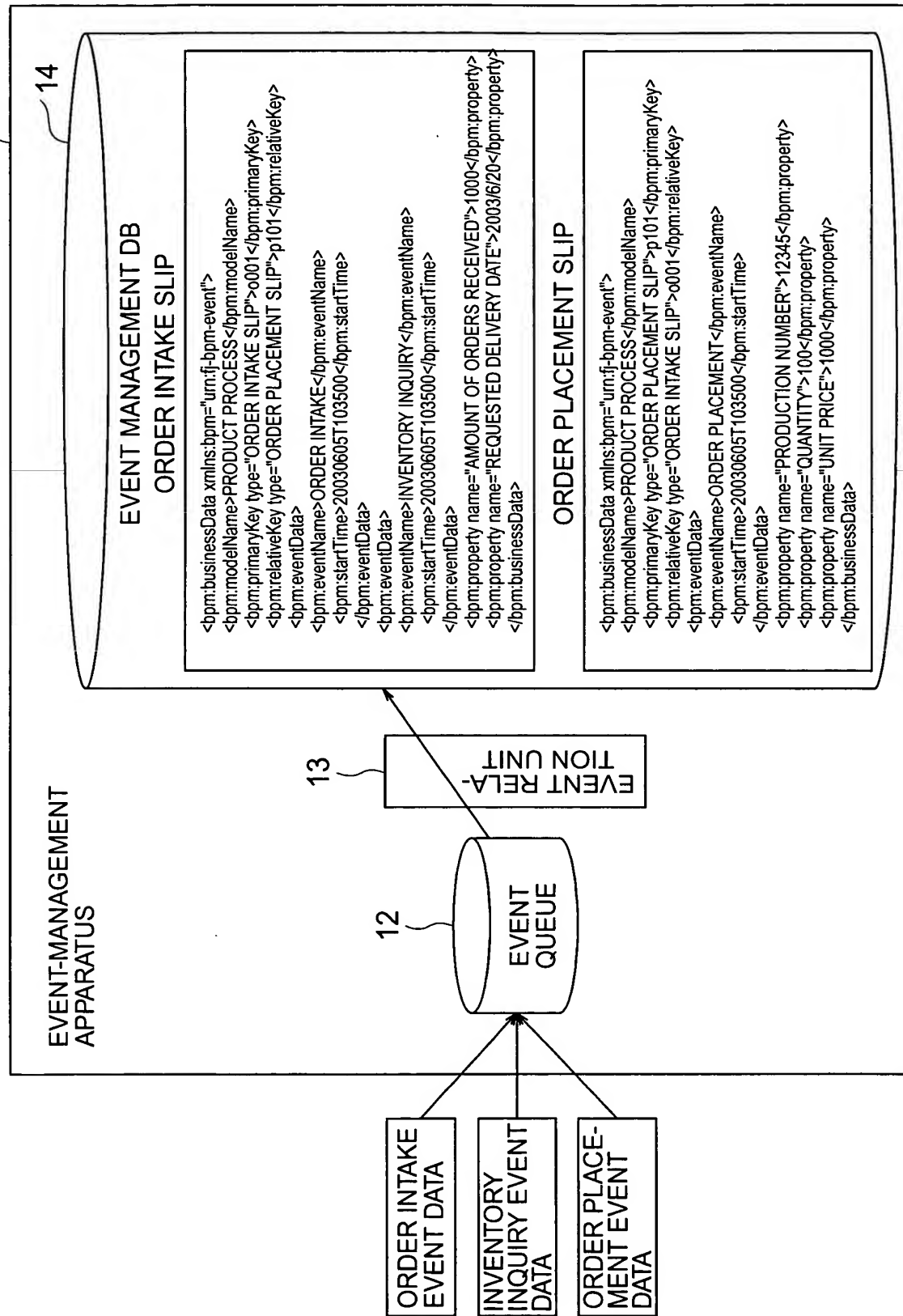


FIG. 19A

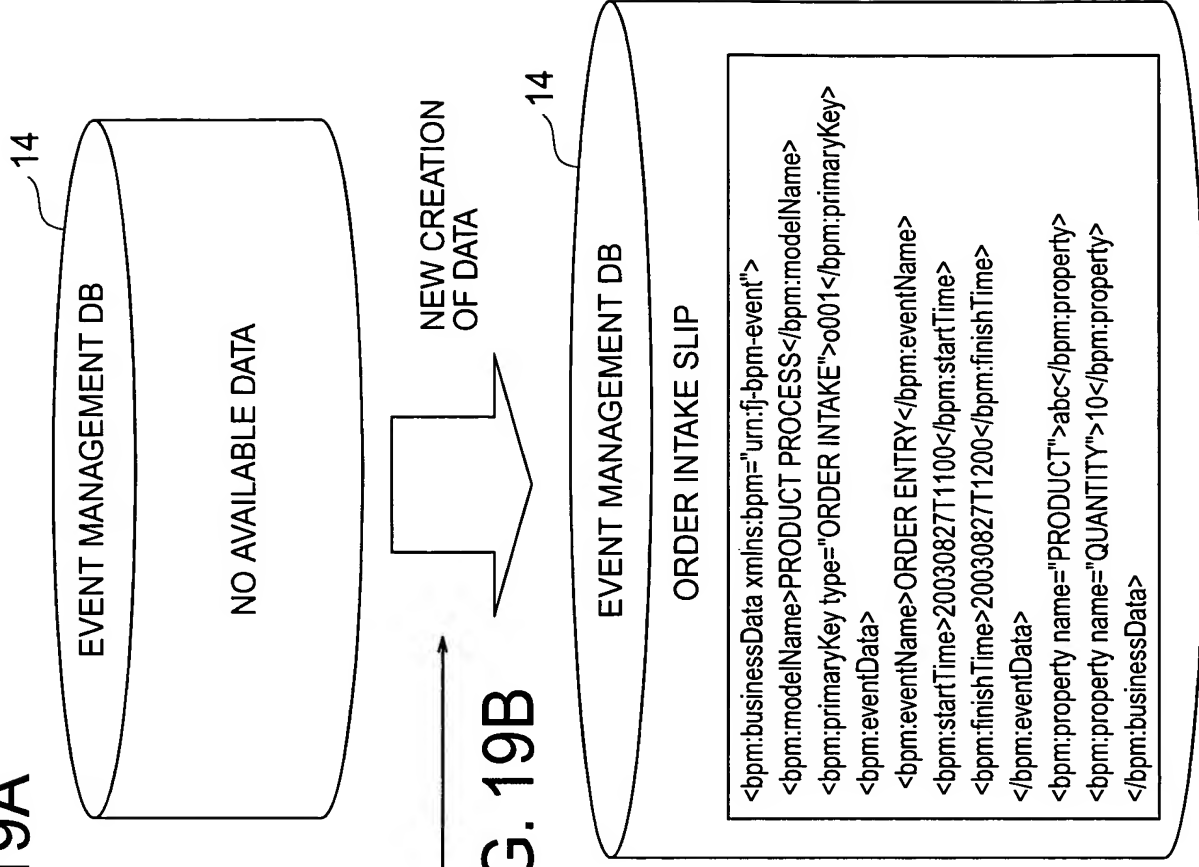


FIG. 19B

FIG. 20A

EVENT DATA C

```
<bpm:event xmlns:bpm="urn:rf-bpm-event">
<bpm:modelName>PRODUCT PROCESS</bpm:modelName>
<bpm:primaryKey type="ORDER INTAKE">o001</bpm:primaryKey>
<bpm:eventData>
<bpm:eventName>INVENTORY INQUIRY</bpm:eventName>
<bpm:startTime>20030827T1300</bpm:startTime>
</bpm:eventData>
</bpm:event>
```

EVENT DATA D

```
<bpm:event xmlns:bpm="urn:rf-bpm-event">
<bpm:modelName>PRODUCT PROCESS</bpm:modelName>
<bpm:primaryKey type="ORDER INTAKE">o001</bpm:primaryKey>
<bpm:eventData>
<bpm:eventName>INVENTORY INQUIRY</bpm:eventName>
<bpm:finishTime>20030827T1400</bpm:finishTime>
</bpm:eventData>
</bpm:event>
```

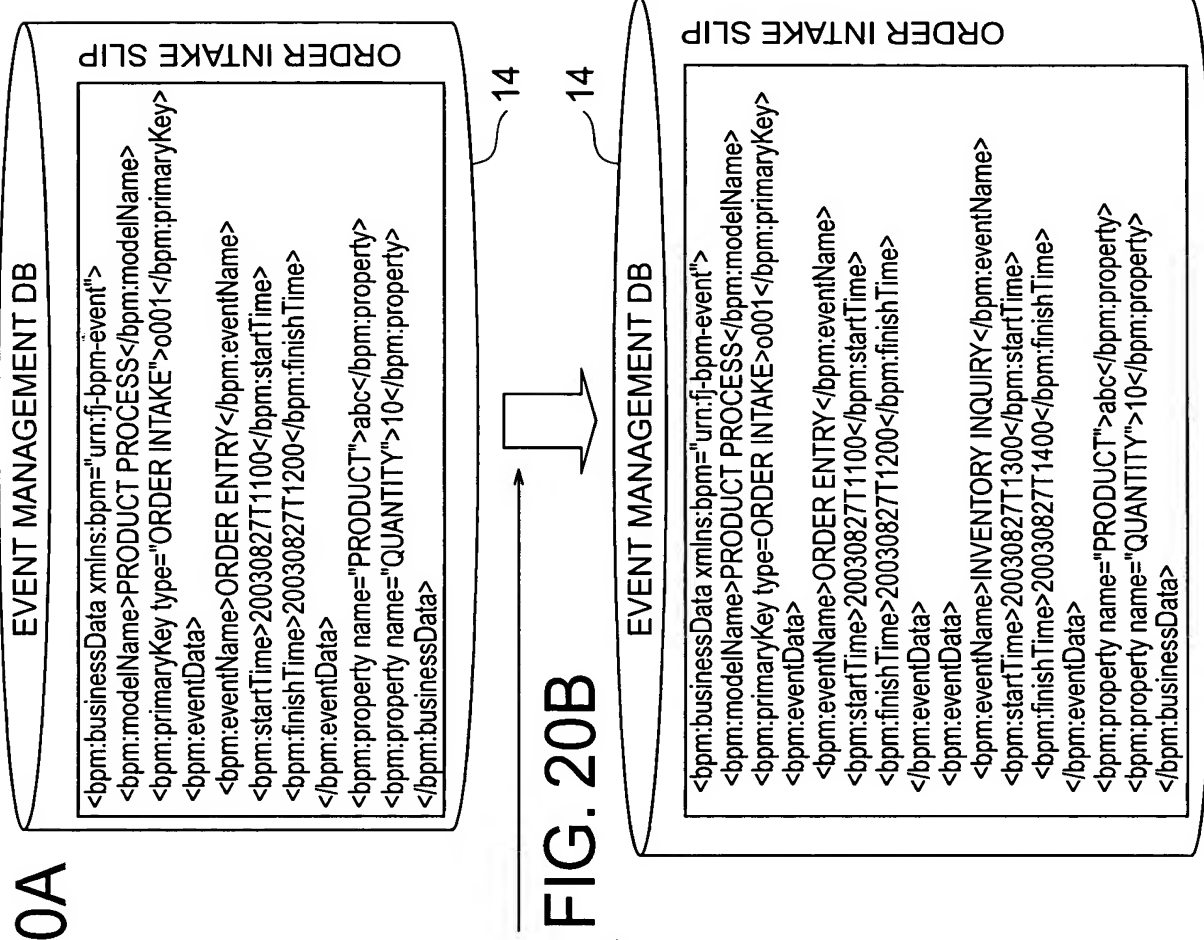


FIG. 21A

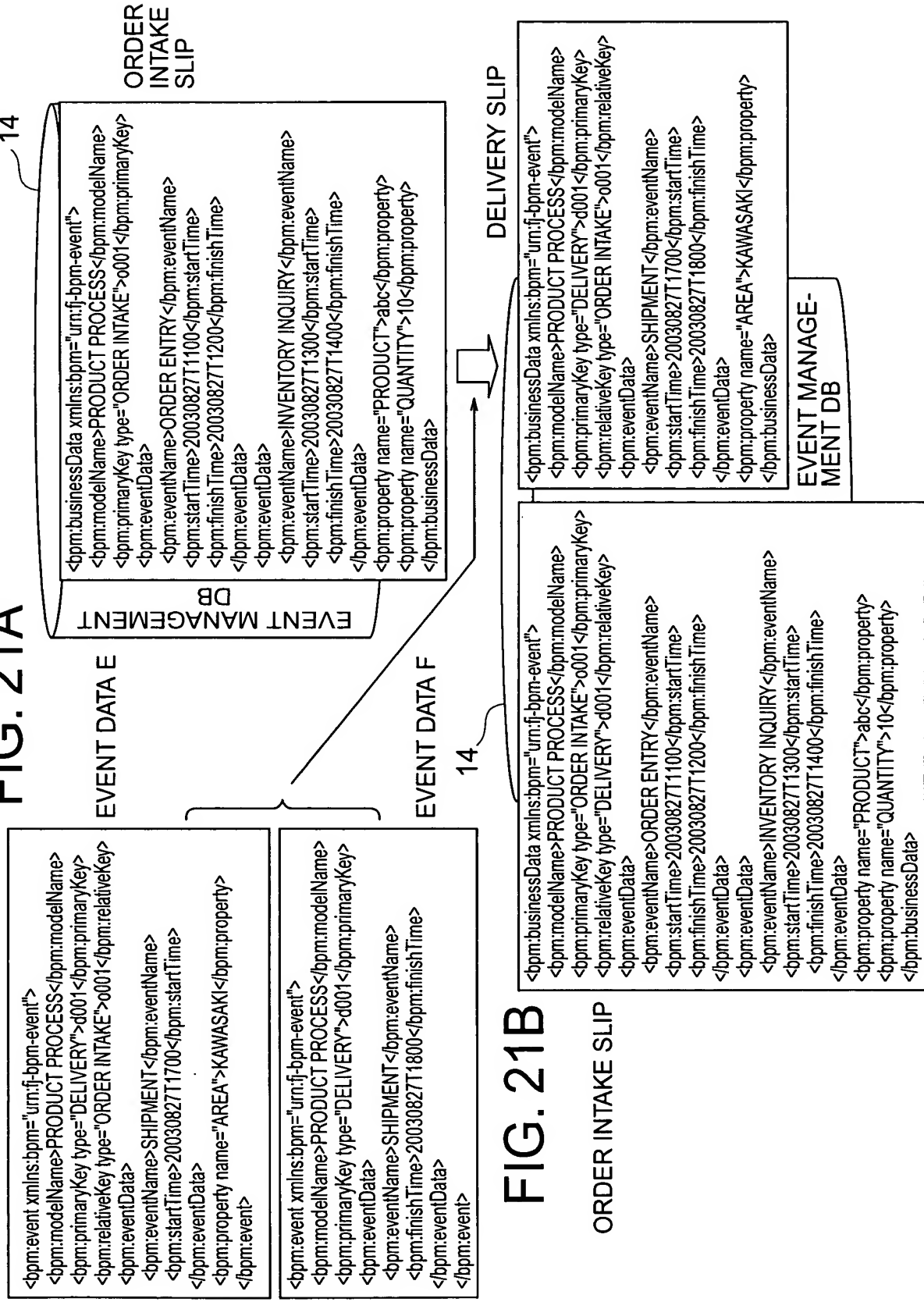


FIG. 21B

ORDER INTAKE SLIP

FIG. 22

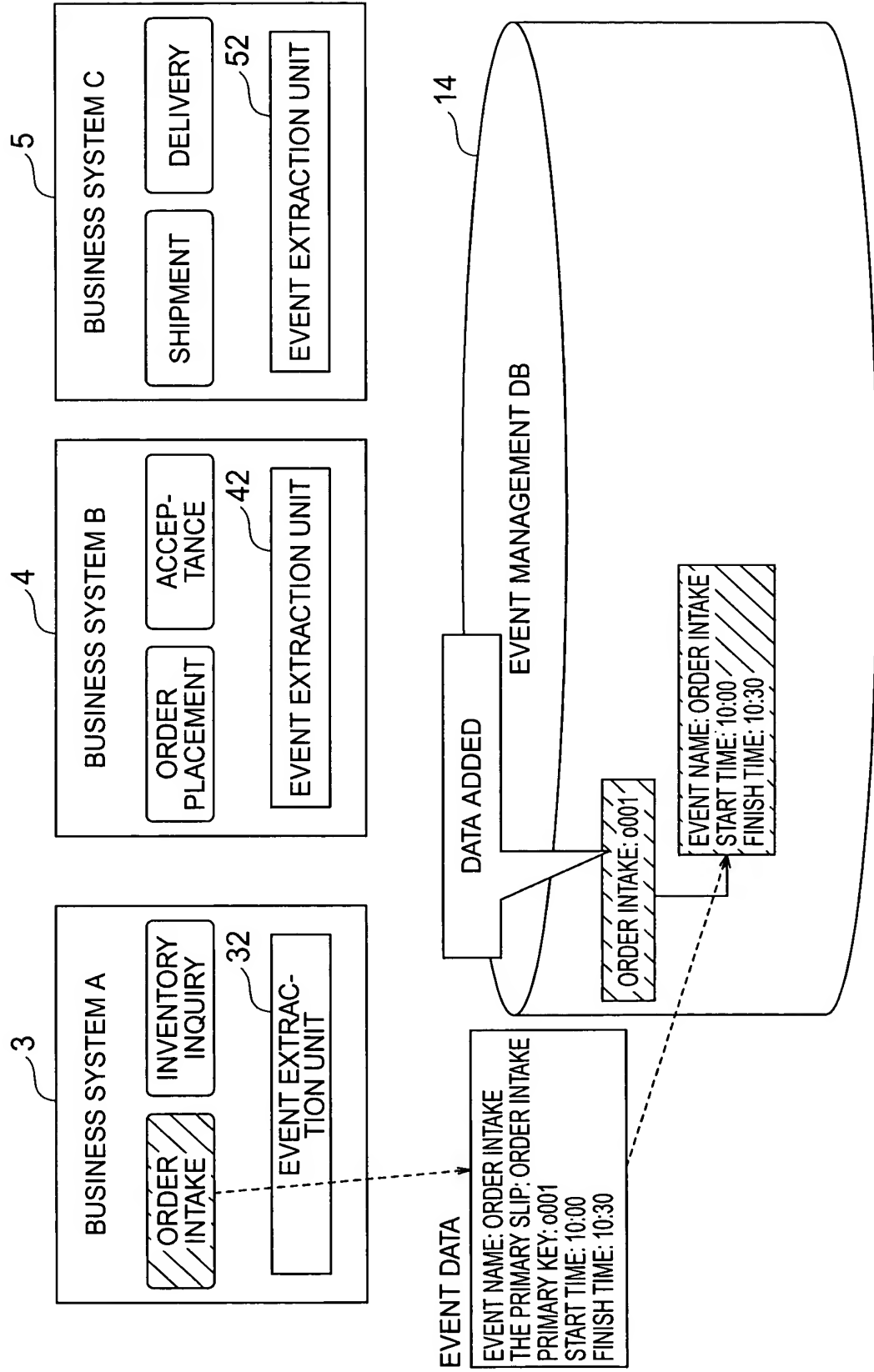


FIG. 23

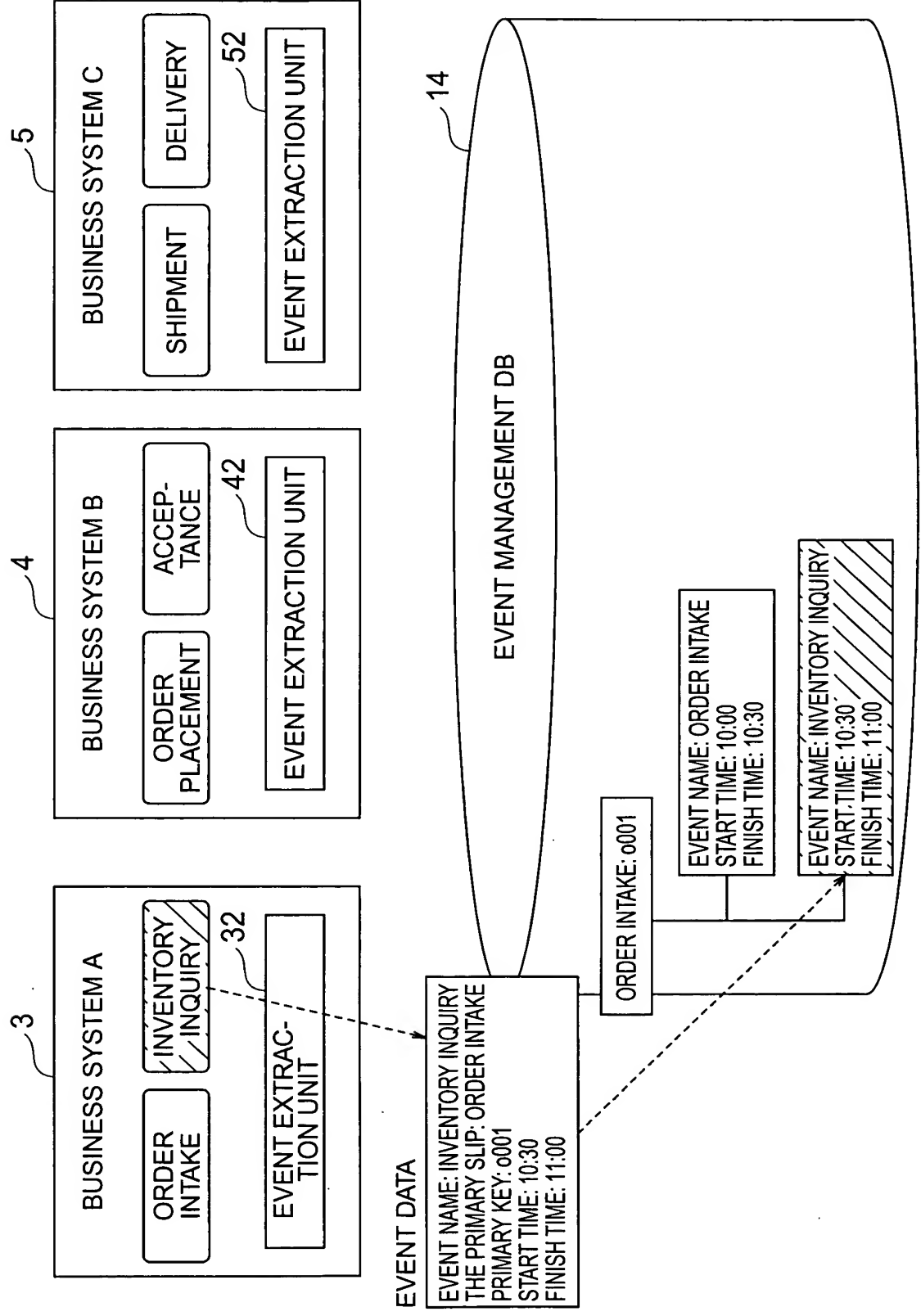


FIG. 24

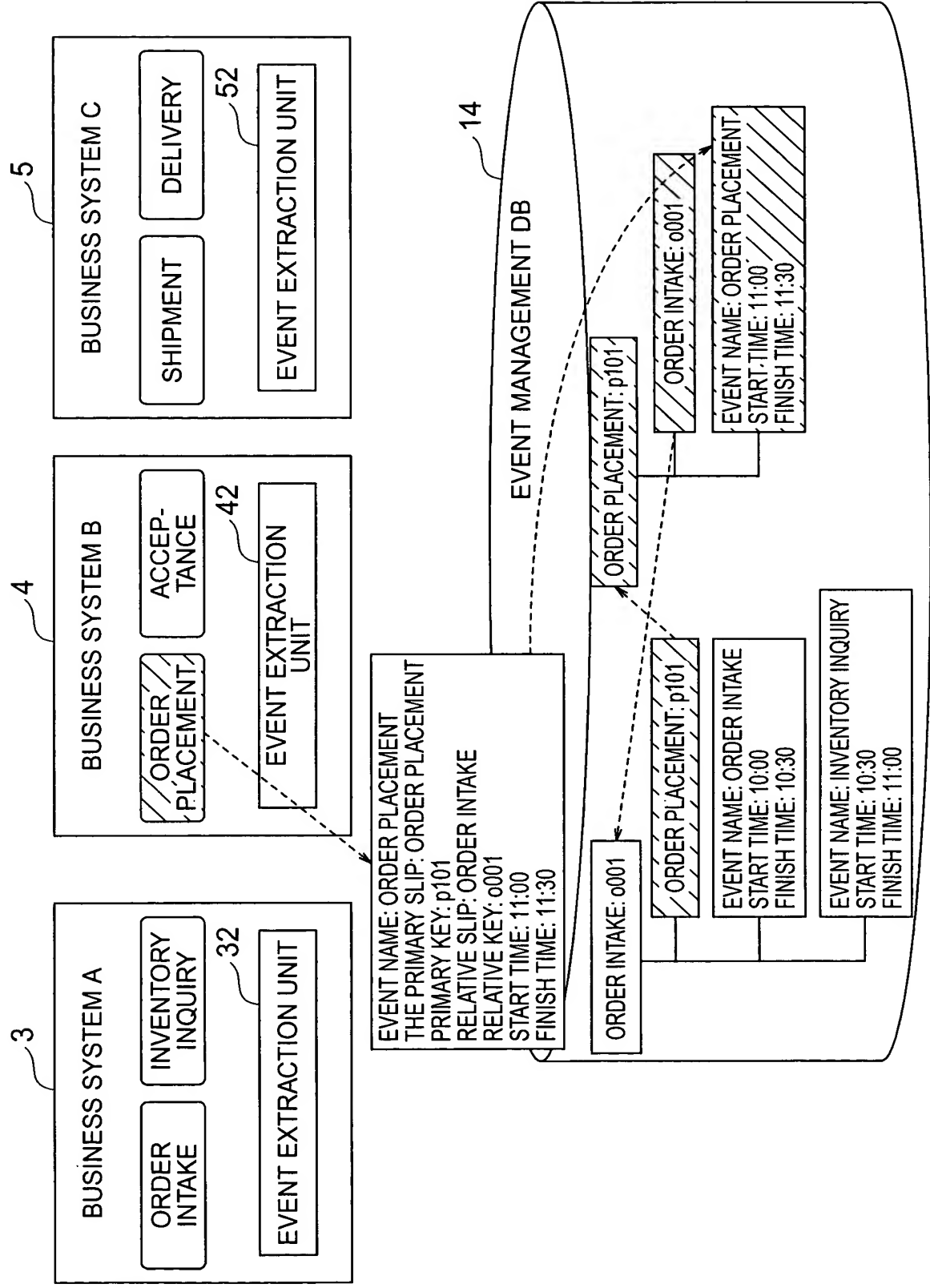


FIG. 25

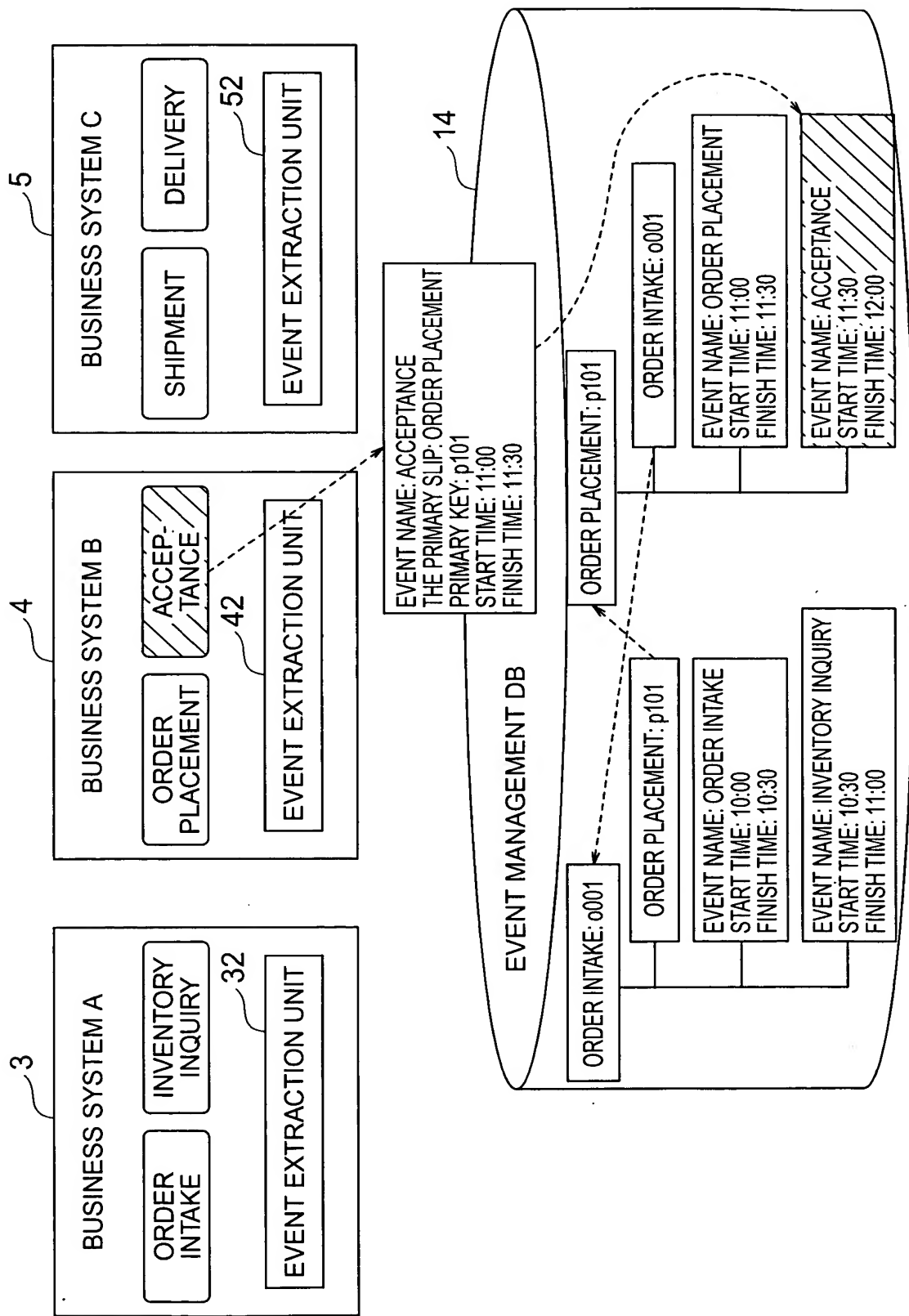


FIG. 26

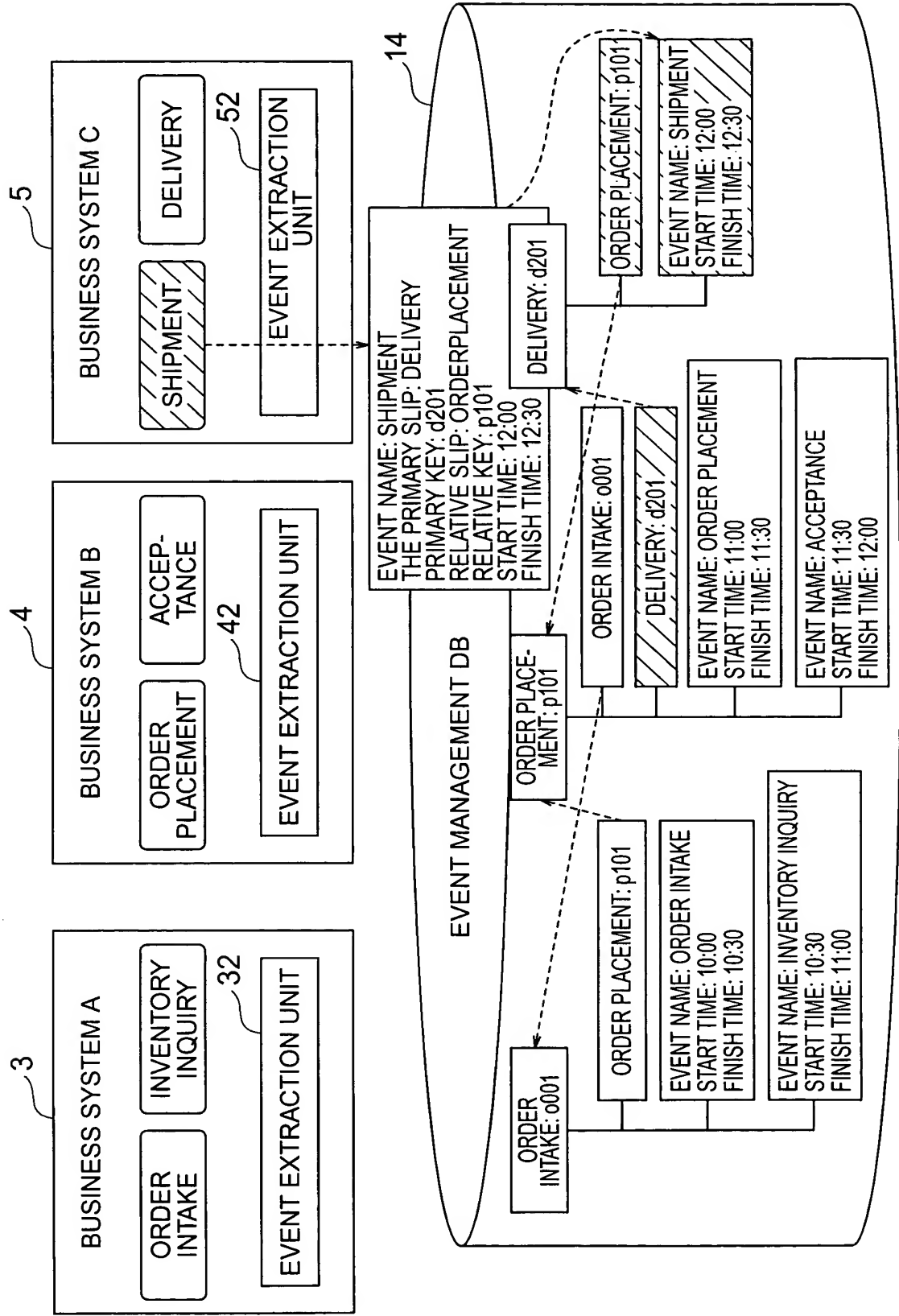


FIG. 27

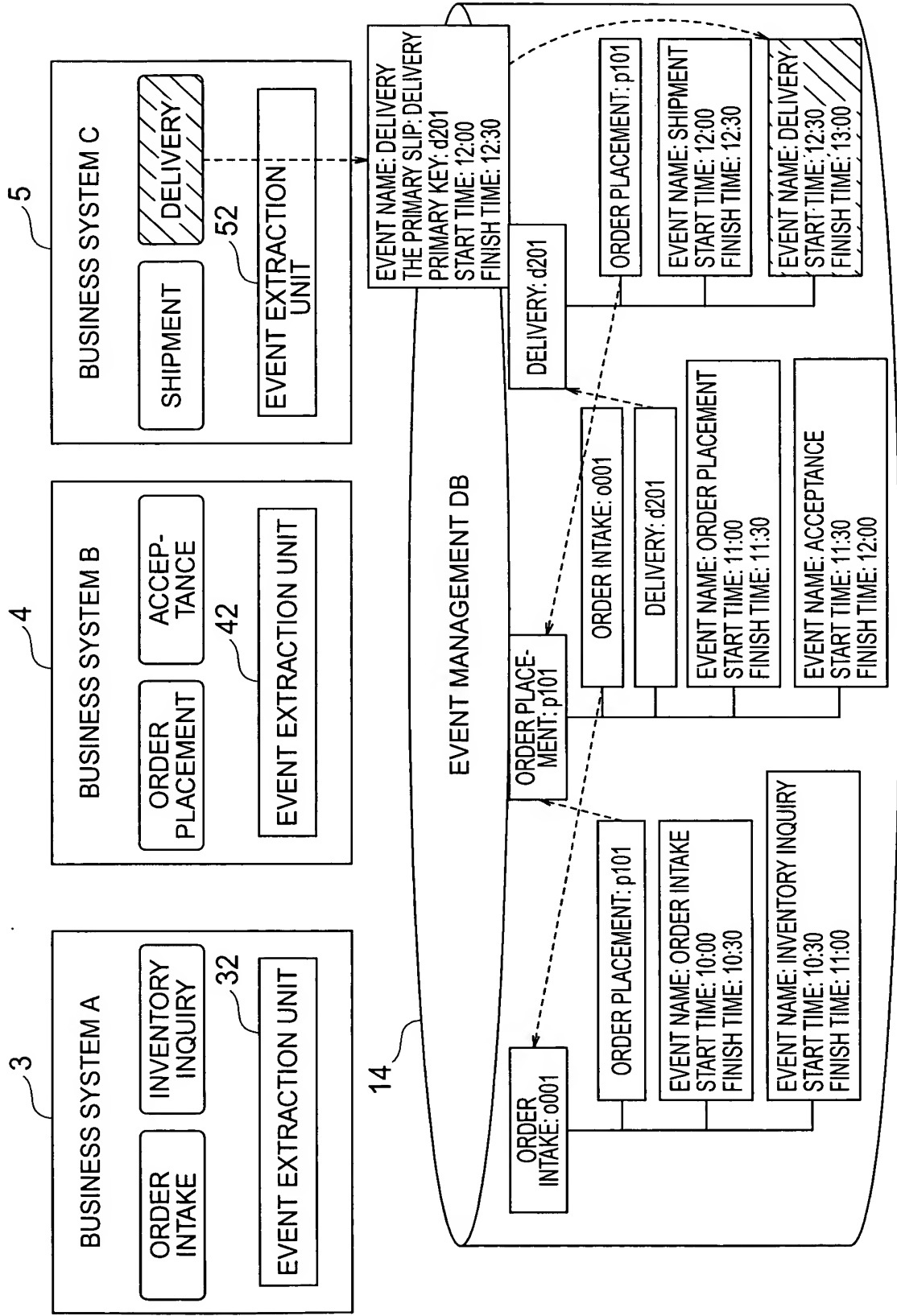


FIG. 28

—

□

×

INPUT OF RETRIEVAL
CONDITION

—

—

BUSINESS PROCESS TRACKING

BUSINESS
PROCESS :

SAMPLE1 ▼

RETRIEVAL
OBJECT :

DELIVERY ▼

RETRIEVAL
ITEM 1 :

SLIP NUMBER ▼

VALUE :

RETRIEVAL
ITEM 2 :

SELECT AN ITEM ▼

VALUE :

RETRIEVAL
ITEM 3 :

SELECT AN ITEM ▼

VALUE :

RETRIEVAL
RANGE :

2003 ▼

YEAR

1 ▼

MONTH

1 ▼

DAY

~

2003 ▼

YEAR

10 ▼

MONTH

1 ▼

DAY

RESULT DISPLAY

☒ DISPLAY BY
EVENT EXPLORER

☐ DISPLAY BY LIST

RETRIEVAL
EXECUTION

CLEAR

RETURN

HELP

FIG. 29

—

□

X

INPUT OF RETRIEVAL

— — BUSINESS PROCESS TRACKING

CONDITION

BUSINESS PROCESS :

PRODUCTION AND SALES ▼

RETRIEVAL OBJECT :

ORDER INTAKE ▼

RETRIEVAL ITEM 1 :

SELECT AN ITEM ▼

VALUE :

RETRIEVAL ITEM 2 :

SELECT AN ITEM ▼

VALUE :

RETRIEVAL ITEM 3 :

SELECT AN ITEM ▼

VALUE :

RETRIEVAL RANGE :

2003 ▼

YEAR

1 ▼

MONTH

1 ▼

DAY

1 ▼

MONTH

1 ▼

YEAR

2003 ▼

DAY

1 ▼

MONTH

1 ▼

DAY

1 ▼

RESULT DISPLAY

○ DISPLAY BY EVENT EXPLORER ● DISPLAY BY LIST

RETRIEVAL EXECUTION

CLEAR

RETURN

HELP

FIG. 30

RETRIEVAL OF SLIP

RETRIEVAL CONDITION

PROCESS: PRODUCT SALES

RETRIEVAL OBJECT: ORDER INTAKE

RETRIEVAL RANGE: JANUARY 1, 2003 TO JANUARY 1, 2003

RETRIEVAL RESULT

SLIP NUMBER: o002

SLIP NUMBER: o001

SLIP NUMBER: o011

INPUT OF RETRIEVAL CONDITION

FIG. 31A

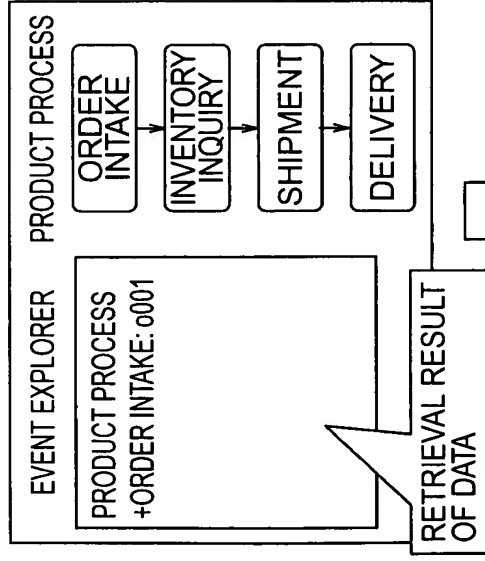


FIG. 31B

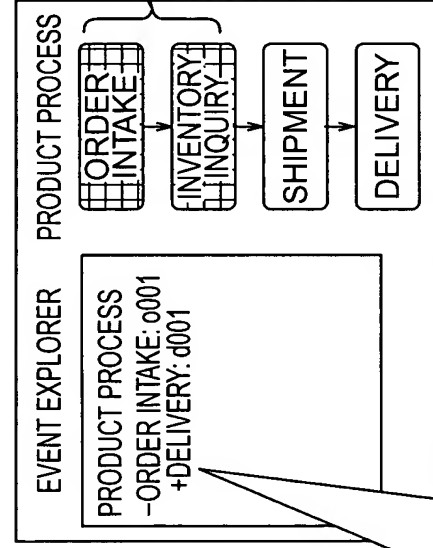


FIG. 31C

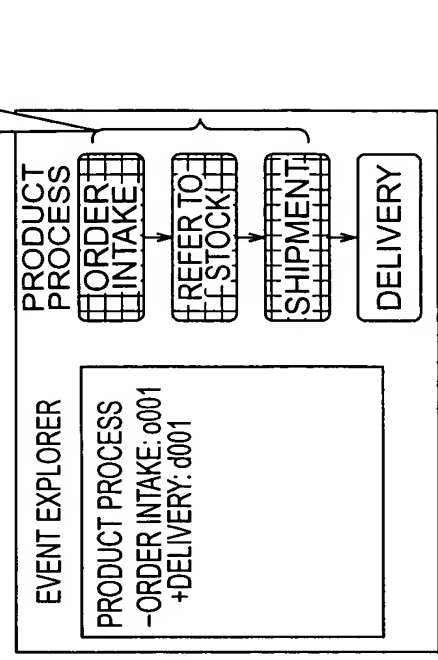


FIG. 32A

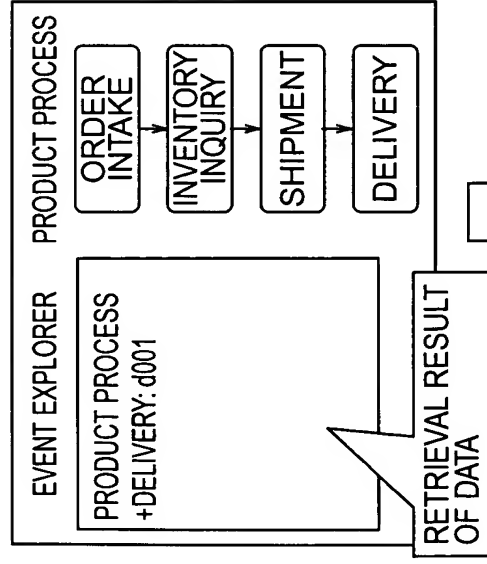


FIG. 32B

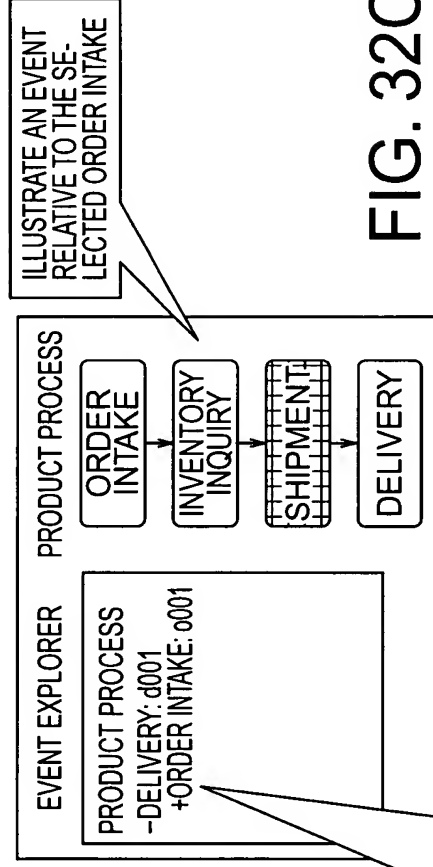


FIG. 32C

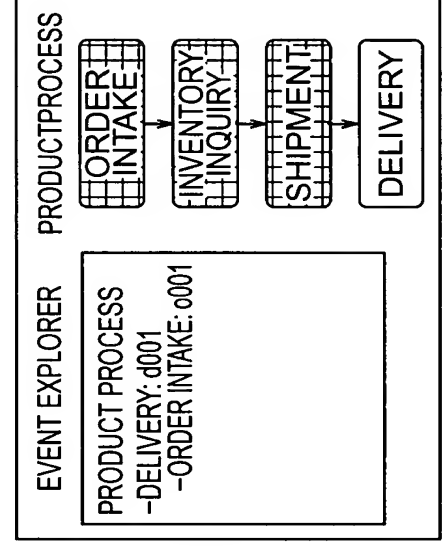


FIG. 33

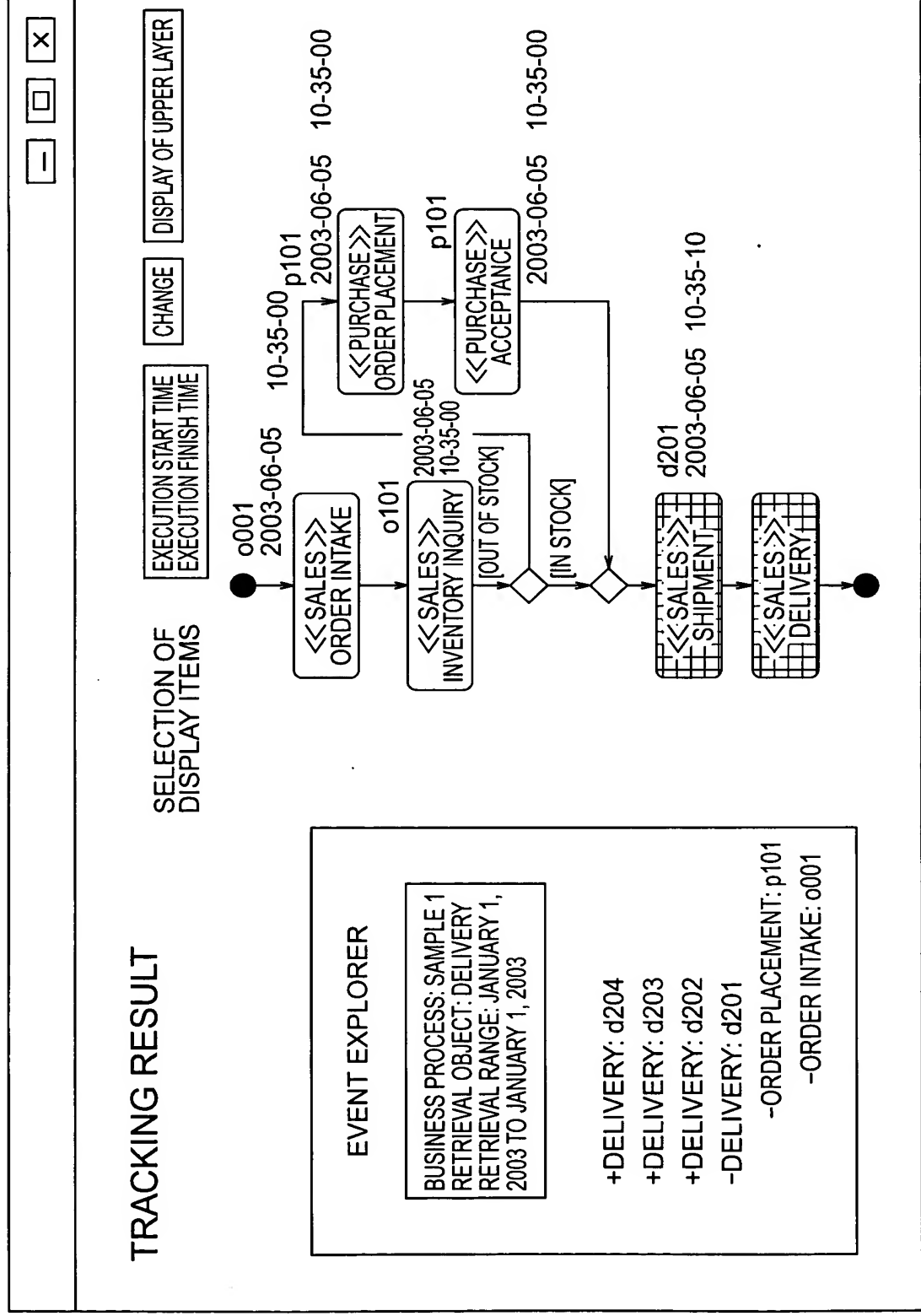


FIG. 34

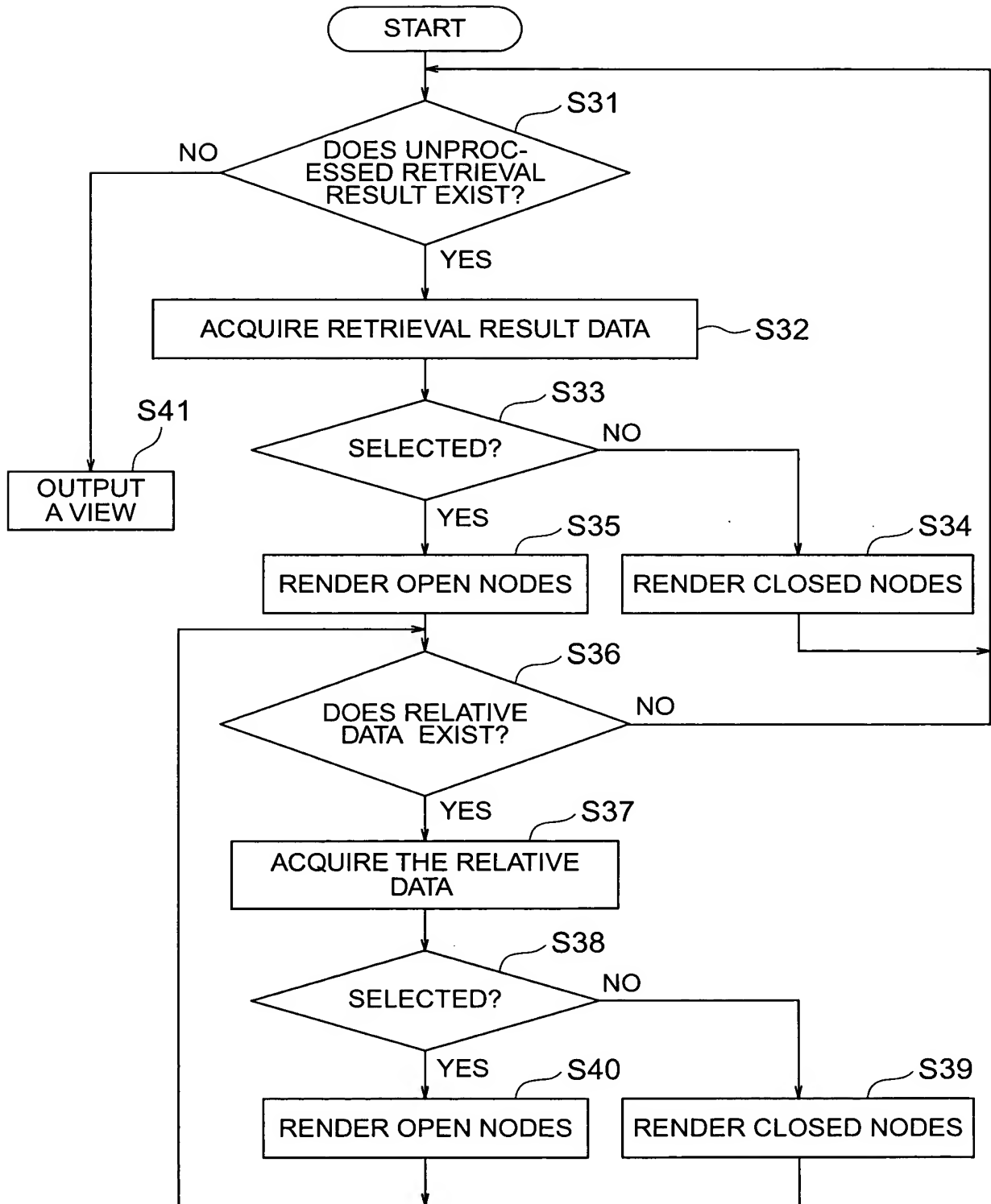


FIG. 35

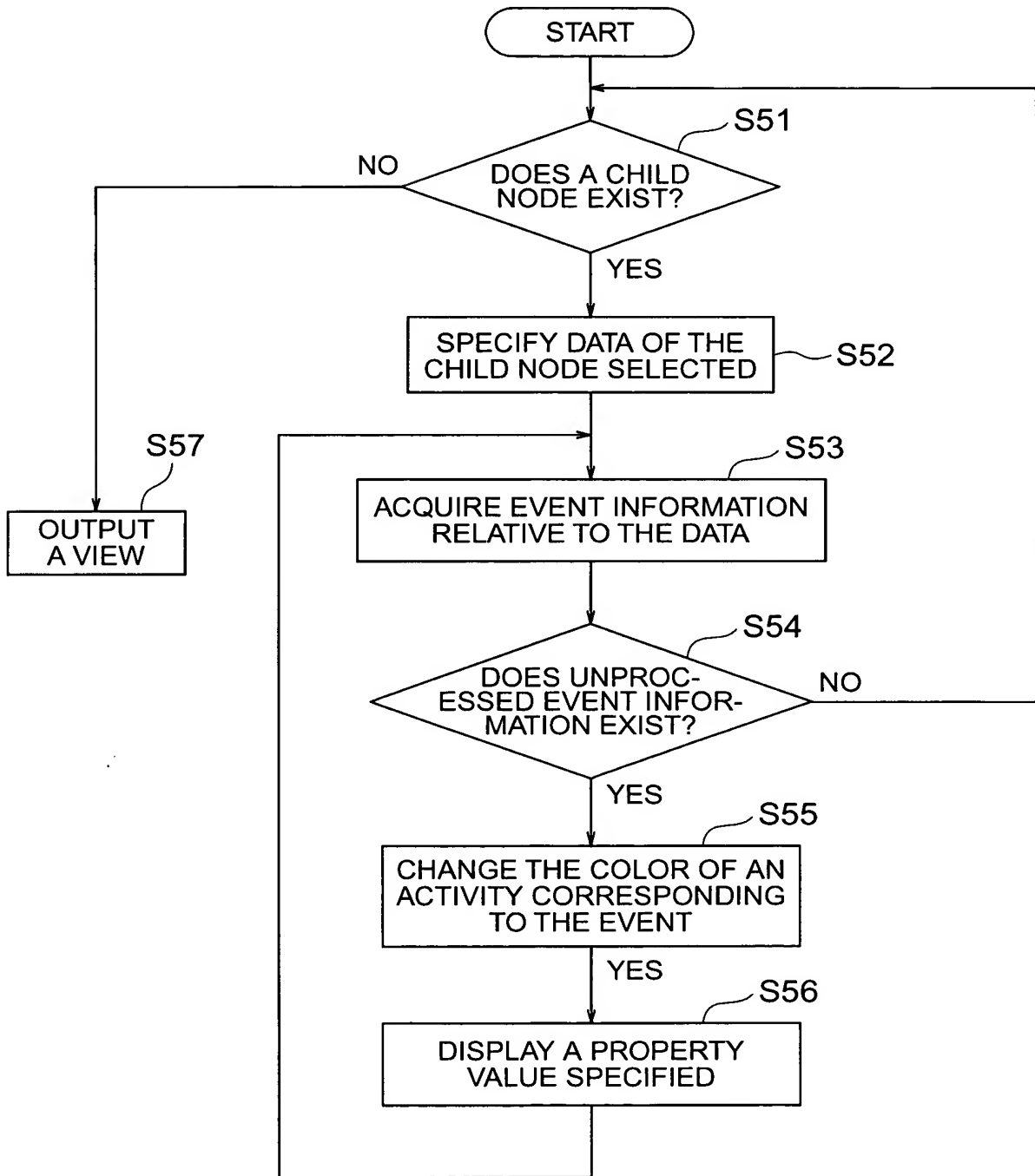


FIG. 36

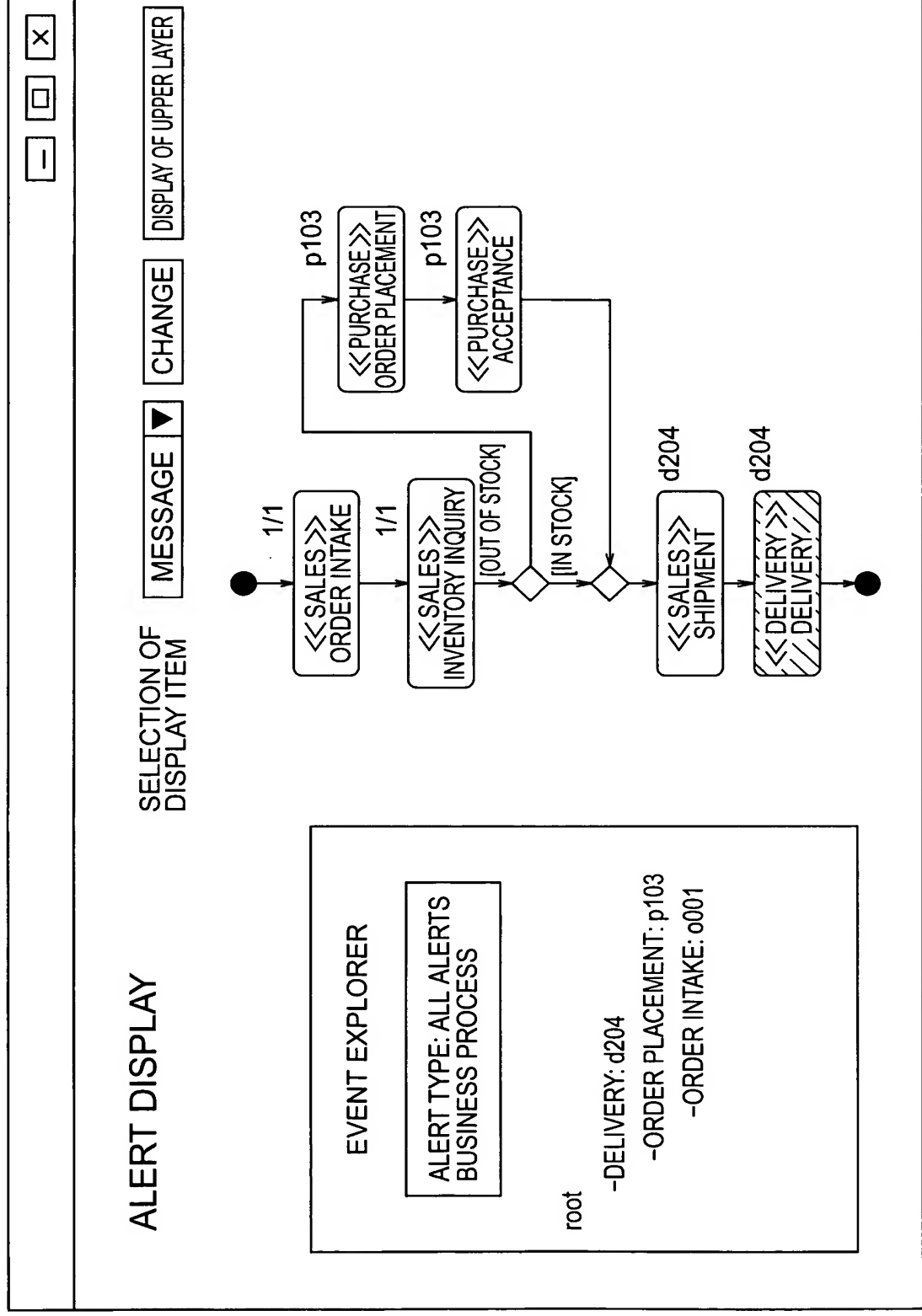


FIG. 37

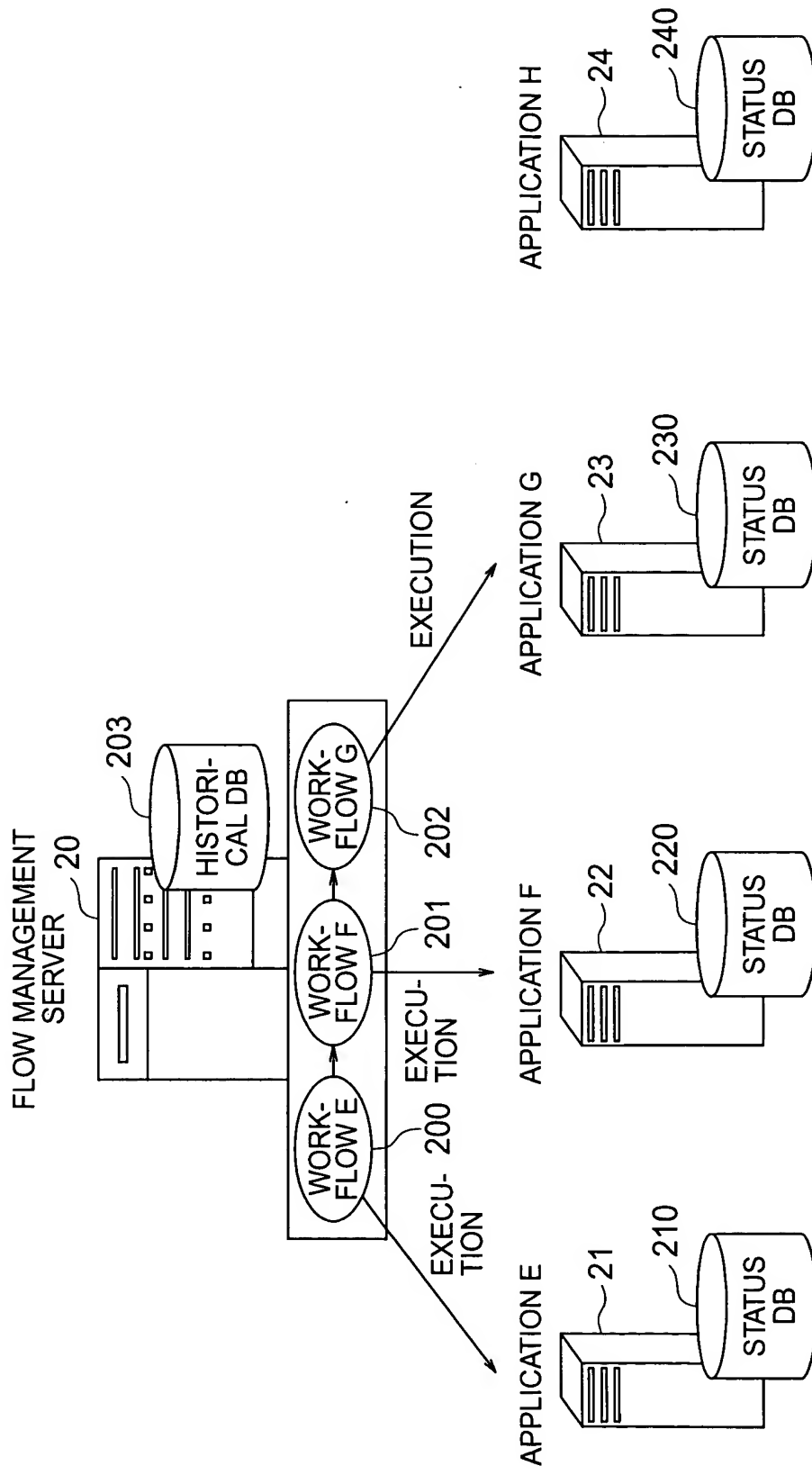


FIG. 38

